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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/721,658

11/25/2003

Patrick O'Neill

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EXAMINER
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YAARY, MICHAEL D

ART UNIT	PAPER NUMBER
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2193

MAIL DATE	DELIVERY MODE
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09/25/2007

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

## Office Action Summary

Application No.

10/721,658

Applicant(s)

O'NEILL ET AL.

Examiner

Michael Yaary

Art Unit

2193

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 06/22/2007.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-21 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1,2,6 and 17-20 is/are rejected.
- 7) ☒ Claim(s) 3-5 and 7-16 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_

### DETAILED ACTION

1. Claims 1-21 are pending in the application.

#### ***Claim Rejections - 35 USC § 103***

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1, 2, 6, 17, 18, and 21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kulkarni et al. (hereafter Kulkarni)(US Pat. 6,775,423) in view of Chen et al. (hereafter Chen)(US Pat. 6,823,432).

4. **As to claim 1**, Kulkarni discloses a system for generating difference information between a first binary image of an electronic device and a second binary image of the electronic device (abstract), the system comprising:

The difference information transmitted to and processed by the electronic device to update memory in the electronic device (column 2, lines 35-39 and column 5, lines 51-59).

5. Kulkarni does not disclose a bank order determination unit adapted to employ at least one differential evolution technique to determine a bank order of updating device memory comprising a plurality of banks; and the determined bank order transmitted to and processed by the electronic device to update memory in the electronic device.

However, Chen discloses a bank order determination unit adapted to employ at least one differential evolution technique to determine a bank order of updating device memory comprising a plurality of banks; and the determined bank order transmitted to and processed by the electronic device to update memory in the electronic device (Abstract and column 2, lines 11-51 disclose an analogous art where memory banks are sorted and balanced, thus ordered, in a system in order to maximize usage of the memory. Therefore, this system may be implemented in the system of Kulkarni. Chen does not explicitly teach using a differential evolution technique to determine a bank order. However, it would have been obvious to one of ordinary skill in the art to use this technique, or to choose among other well-known ordering techniques, such as a shift, bubbles, or nodes technique, to achieve the same result of an ordered memory bank.).

6. Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to modify the teachings of Kulkarni, by implementing memory bank ordering, as taught in Chen, for the benefit of maximizing memory usage in the updating system without the risk of filling one particular memory bank to capacity.

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7. **As to claim 2**, the combination of Kulkarni and Chen disclose wherein the first binary image and the second binary image comprise at least one of firmware and software in memory banks of the electronic device (Kulkarni column 2, lines 46-67) and the bank order determination unit being adapted to employ genomes to represent bank orders of memory banks of the electronic device (Chen column 2, lines 11-38).

8. **As to claims 6, 17, and 18**, the claims are rejected for the same rationale as claim 1 above.

9. **As to claim 21**, the combination of Kulkarni and Chen disclose incorporating information in a generated update package facilitating fault tolerant update in a mobile handset receiving the generated update package (Examiner is taking official notice that it would have been obvious to one of ordinary skill in the art at the time of the invention to incorporate the well-known knowledge of fault tolerance in the system in order to allow for the electronic device to have continuous functionality while having failure of a component.).

10. Claims 19 and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kulkarni in view of Cheng as applied to claim 17 above, and further in view of Waldin et al. (hereafter Waldin)(US Pat. 6,651,249).

11. Waldin was cited in the previous office action dated 03/22/2007.

12. **As to claims 19 and 20**, Kulkarni and Cheng do not disclose incorporating verification information in a generated update package facilitating integrity checking in a mobile handset receiving the generated update package and incorporating authentication information in a generated update package facilitating authentication of a source of the generated update package in a mobile handset receiving the generated update package.

However, Waldin discloses incorporating verification information in a generated update package facilitating integrity checking in a mobile handset receiving the generated update package (column 10, lines 6-11) and incorporating authentication information in a generated update package facilitating authentication of a source of the generated update package in a mobile handset receiving the generated update package (column 4, lines 48-54).

13. Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to modify the teachings of Kulkarni and Chen, by incorporating verification information and authentication information, as taught by Waldin, in order to verify stability and that update packages have not been altered.

***Allowable Subject Matter***

14. Claims 3-5 and 7-16 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

***Response to Arguments***

15. Applicant's arguments with respect to claims 1-21 have been considered but are moot in view of the new ground(s) of rejection.

***Conclusion***

16. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.


Any inquiry concerning this communication or earlier communications from the examiner should be directed to Michael Yaary whose telephone number is (571) 270-1249. The examiner can normally be reached on Monday-Friday, 8:00 a.m - 5:00 p.m..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Meng-Ai An can be reached on (571) 272-3756. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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